Response to

Request for Additional Information No. 40, Revision 0

8/04/2008
U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 06.02.01 - Containment Functional Design
Application Section: 6.2.1.1.3 "Design Evaluation"
SPCV Branch

Question 06.02.01-11:

Information needed for NRC staff to develop confirmatory analysis: (Relate to SRP Section 6.2.1.1A)

The staff finds the information provided in response to RAI 6.2.1-07 to be helpful but additional descriptions are needed for the staff to develop a multi-noded confirmatory containment model for the US-EPR containment building. Please provide the following information:

1. Floor area (or total volume) of containment sub-compartments:

Although containment sub-compartment descriptions are provided in the response to RAI 6.2.1-07 in Table 6.2.1-07-2, the floor area of each room cannot be calculated reliably from the Table data, because the free volumes (not total volumes) are given, and the free volumes may differ from the room total volumes. This heat transfer area is important for understanding the heat transfer for the horizontal surfaces in the containment.

Please provide the floor area for each room in table 6.2.1-07-2.

2. Location of passive heat sinks:

The passive heat sinks (heat structures) of US-EPR are provided in FSAR Table 6.2.1-5. Description of location of the heat structures is quite general in the Table, and hence, it is very difficult to understand the exact location of each structure in the reactor containment building.

Please provide the exact location of the structures (e.g. room names where each structure is located).

3. Internal heat loads:

Provide the heat loads from all equipment which would be operating within the containment following a major piping break and provide the room name where the heat load would be released.

4. Total area and opening criteria of rupture and convection foils, and mixing dampers:

Dimensions of rupture and convection foils are provided in the response to RAI 6.2.1-07 in Table 6.2.1-07-1. What is the meaning of column “Type”? What is the total flow area of rupture foils alone? What is the total flow area of convection foils alone? What is the total flow area of the mixing dampers? What is the time delay (if it exists) for opening of mixing dampers after the opening signal is reached? What are the blind sheets listed in Table 6.2.1-07-1? Describe their function.

5. Total loss coefficient of vent paths:

The vent paths connecting the reactor building rooms are identified in RAI 6.2.1-07 in Table 6.2.1-07-03. Please provide the total flow loss coefficient for each of the flow paths and describe how the loss coefficients were derived.

Response to Question 06.02.01-11:

The information requested regarding the containment heat sinks and flow paths is provided in Table 06.02.01-11-1—Containment Control Volumes, Table 06.02.01-11-2—Containment Heat Sink Inventory, and Table 06.02.01-11-3—Containment Sub-Compartments – Flow Path Data. These tables are organized by control volume (CV) numbers to avoid ambiguity and to provide a consistent interpretation of the data. A CV is one or more contiguous rooms connected through open flow paths. The CVs represent the nodes in the multi-node containment model. The correspondence between the CVs and the constituent rooms is shown in Table 06.02.01-11-1.

1. *Floor area (or total volume) of containment sub-compartments*

   The requested information is provided in Item 2 below.

2. *Location of passive heat sinks*

   The passive heat sink data regarding the horizontal heat transfer area requested in Item 1 and the location information requested in Item 2 are provided in Table 06.02.01-11-2. Table 06.02.01-11-2 is a reproduction of U.S. EPR FSAR, Tier 2, Table 6.2.1-5—Containment Heat Sink Inventory in English units with additional information identifying the associated left and right control volumes and the surface orientation. The columns added to Table 06.02.01-11-2 are:

   - Heat Sink No, a unique number assigned to a given heat sink.
   - Right Side CV, the CV number of the volume in Table 06.02.01-11-1, which is in contact with the right side of the heat sink.
   - Left Side CV, the CV number of the volume in Table 06.02.01-11-1, which is in contact with the left side of the heat sink.
   - Orientation, where floors and ceilings are identified by the key word “Horizontal.” A blank in this column indicates that the heat sink is vertical.

3. *Internal heat loads*

   The electrical heat load due to operating equipment is negligible because there is no major equipment running inside the containment following a loss of coolant accident (LOCA) or a main steam line break (MSLB). The energy addition by the operating safety injection pumps, which are located in the Safeguard Building, is 755 kW per train. Although this energy is added to the safety injection fluid itself, in the single node containment model it is conservatively added directly to the containment atmosphere.

   Convective and radiative heat gain from the reactor coolant system (RCS) and the steam generators (SGs) are also negligible because they are heavily insulated. The sensible heat of the fluid and metal contained in the RCS and the SGs are accounted for in the blowdown data, which is injected into CV 23 of the multi-node containment model.

4. *Total area and opening criteria of rupture and convection foils and mixing dampers*

   The column labelled “Type” refers to the classification of the foil. A Type “C” foil is a convection foil with dimensions similar to a Type I foil (see Table 6.2.1-07-1—Dimensions of Rupture and Convection Foils in AREVA NP’s May 29, 2008, response to RAI-1, Question 06.02.01-7). Type “I” through “IV” foils are classified as rupture foils, where Roman numeral

I has the largest dimension and Roman numeral IV has the smallest dimension. A Type "V" foil is commonly referred to as a "blind sheet," which is not designed to rupture and therefore does not open and does not contribute to the flow area. A Type V foil is normally installed in places where the other Types cannot be fitted, usually at the circumference of the SG ceiling.

Based on the discussion above, Table 6.2.1-07-1 can be updated as presented in Table 06.02.01-11-4. As presented in Table 06.02.01-11-4, the total flow area of rupture foils is 17.71 m² per SG ceiling, or 8.855 m² per SG loop. Similarly, the total flow area for the convection foils is 22.326 m² per SG ceiling, or 11.163 m² per SG loop.

Each hydrogen mixing damper has a flow area of 0.5 m². There are eight hydrogen mixing dampers with a total flow area of 4 m². The hydrogen mixing dampers are based on a regular fire damper design, but the exact equipment specifications have not yet been defined, including any delay time.

5. *Total Loss coefficients of vent paths*

The single node containment model is a lumped model consisting of a single volume. As such, there are no flow paths and, therefore, no loss coefficients in the model. In the containment subcompartment pressure model, a loss coefficient of 1.5 is used for all flow paths. This value represents the combined loss coefficient of a sharp-edged restriction with an entrance loss coefficient of 0.5 and a discharge coefficient of 1.0. In the multi-node model for containment pressure, the loss coefficient is lowered to 0.6 to enable quick dispersal of the fluid to yield a conservative containment pressure.

The flow paths and the associated loss coefficients used in the containment subcompartment pressure model are listed in Table 06.02.01-11-3. Table 06.02.01-11-3 is a reproduction of Table 6.2.1-07-3—Containment Sub-Compartments – Flow Path Data (see AREVA NP's May 29, 2008, response to RAI-1) with the loss coefficients appended in the last column. For clarity, the original table is expanded to provide:

- Flow path number, a unique number assigned to each flow path.
- "From" and "To" CV numbers.
- Opening pressure (where applicable). The original "Type" column, which showed the flow path type and the opening pressure, is separated into two columns to indicate the opening type and the opening differential pressure (DP) separately.

FSAR Impact:

The U.S. EPR FSAR will not be changed as a result of this question.

Table 06.02.01-11-1—Containment Control Volumes (7 Sheets)

Control Volume					Associated Rooms				
No.	Description	Volume (ft^3)	From El. (ft)	To El. (ft)	ID (30UJA)	Description	Volume (ft^3)	From El. (ft)	To El. (ft)
1	Spreading Rooms	20057	-20.67	20.47	04-002	Spreading area	17655	-20.67	-12.14
					07-017	Venting area for spreading area	2401	-12.14	20.47
2	IRWST				04-003	IRWST	53637	-22.47	0
3	Lower Equipment Rooms L1	26197	4.92	30.77	11-002	RCP loop 1	6900	4.92	15.22
					11-003	SG loop 1	7768	4.92	16.9
					15-002	RCP loop 1	3549	15.22	24.08
					15-003	SG loop 1	7980	15.22	30.77
4	Lower Equipment Rooms L2	24873	4.92	30.77	11-004	SG loop 2	7768	4.92	16.9
					11-005	RCP loop 2	5840	4.92	15.22
					15-004	SG loop 2	7980	15.22	30.77
					15-005	RCP loop 2	3284	15.22	24.08
5	Middle Equipment Rooms L1	40724	24.08	64.8	18-002	RCP loop 1	9004	24.08	45.28
					18-003	SG loop 1	8792	30.77	45.28
					23-002	RCP loop 1	6755	45.28	60.7
					23-003	SG loop 1	7825	45.28	64.8
					23-017	KLA 6 (containment ventilation)	6356	45.28	61.35
					23-020	FAL (fuel pool purification)valves	1992	45.28	60.7
6	Middle Equipment Rooms L2	39371	24.08	64.8	18-004	SG loop 2	8792	30.77	45.28
					18-005	RCP loop 2	8475	24.08	45.28
					23-004	SG loop 2	11052	45.28	64.8
					23-005	RCP loop 2	11052	45.28	63.98

Table 06.02.01-11-1—Containment Control Volumes (7 Sheets)

Control Volume					Associated Rooms				
No.	Description	Volume (ft^3)	From El. (ft)	To El. (ft)	ID (30UJA)	Description	Volume (ft^3)	From El. (ft)	To El. (ft)
7	Upper Equipment Rooms L1 & L2	37906	63.98	103.51	29-003	SG loop 1	5261	64.8	79.07
					29-004	SG loop 2	5261	64.8	79.07
					29-005	RCP loop 2	4237	63.98	79.07
					34-003	SG loop 1	9869	79.07	103.51
					34-004	SG loop 2	9869	79.07	103.51
					34-005	RCP loop 2	3407	79.07	91.86
8	RPV Pit	3001	-20.67	24.41	11-001	RPV pit	3001	-20.67	24.41
9	Reactor Cavity	52150	24.41	60.53	15-001	Reactor cavity	29944	24.41	60.53
					15-017	Core internals storage	21751	24.41	60.53
					15-024	Access to reactor cavity	456	24.41	31.17
10	Lower Equipment Rooms L3	24873	4.92	30.77	11-006	RCP loop 3	5840	4.92	15.22
					11-007	SG loop 3	7768	4.92	16.9
					15-006	RCP loop 3	3284	15.22	24.08
					15-007	SG loop 3	7980	15.22	30.77
11	Lower Equipment Rooms L4	26144	4.92	30.77	11-008	SG loop 4	7768	4.92	16.9
					11-009	RCP loop 4	6900	4.92	15.22
					15-008	SG loop 4	7980	15.22	30.77
					15-009	RCP loop 4	3496	15.22	24.08
12	Middle Equipment Rooms L3	36144	24.08	64.8	18-006	RCP loop 3	8475	24.08	45.28
					18-007	SG loop 3	8792	30.77	45.28
					23-006	RCP loop 3	7825	45.28	63.98
					23-007	SG loop 3	11052	45.28	64.8

Table 06.02.01-11-1—Containment Control Volumes (7 Sheets)

Control Volume					Associated Rooms				
No.	Description	Volume (ft^3)	From El. (ft)	To El. (ft)	ID (30UJA)	Description	Volume (ft^3)	From El. (ft)	To El. (ft)
13	Middle Equipment Rooms L4	42052	24.08	64.8	18-008	SG loop 4	8792	30.77	45.28
					18-009	RCP loop 4	7627	24.08	45.28
					23-008	SG loop 4	11052	45.28	64.8
					23-009	RCP loop 4	6755	45.28	60.7
					23-018	KLA 6 (containment ventilation)	6356	45.28	61.35
					23-031	FAL skimming pump	1469	45.28	60.7
14	Upper Equipment Rooms L3 & L4	37906	63.98	103.51	29-006	RCP loop 3	4237	63.98	79.07
					29-007	SG loop 3	5261	64.8	79.07
					29-008	SG loop 4	5261	64.8	79.07
					34-006	RCP loop 3	3407	79.07	91.86
					34-007	SG loop 3	9869	79.07	103.51
					34-008	SG loop 4	9869	79.07	103.51
15	Surge Line & Below	41656	4.92	49.11	11-018	SG blowdown (LCQ) flash tank	9110	4.92	19.95
					11-019	JEG PZR relief tank	4908	4.92	19.95
					15-018	Spray lines	4732	21.92	31.17
					15-019	Surge line	5569	21.92	31.17
					18-018	Spray valves	8757	32.15	47.31
					18-019	Surge line	8581	32.15	49.11
16	PZR	19368	49.11	91.86	23-019	PZR	6762	49.11	65.29
					23-041	Instrument measuring table	2613	49.11	61.35
					29-019	PZR	5473	67.91	81.56
					34-019	PZR SRVs	4520	83.2	91.86

Table 06.02.01-11-1—Containment Control Volumes (7 Sheets)

Control Volume					Associated Rooms				
No.	Description	Volume (ft^3)	From El. (ft)	To El. (ft)	ID (30UJA)	Description	Volume (ft^3)	From El. (ft)	To El. (ft)
17	Components	29057	-21.16	20.47	04-005	Compartment for flooding device	441	-21.16	-7.55
					04-006	Compartment for flooding device	441	-21.16	-7.55
					07-020	KTC floor drain 1	3496	-7.55	2.95
					07-021	KTA heat exchanger	1222	-7.55	2.95
					07-022	KTA pumps	3143	-7.55	2.95
					07-023	KTD floor drain 2	2790	-7.55	2.95
					07-024	KTA KTB tanks	3319	-7.55	2.95
					07-026	KBA cooler	1766	-7.55	2.95
					07-027	KBA cooler	1801	-7.55	2.95
					07-028	KBA valves	1554	-7.55	2.95
					07-029	KBA valves	1377	-7.55	2.95
					11-022	KBA valves	2013	4.92	20.47
					11-023	KBA valves	3496	4.92	16.08
					11-024	KBA regenerative HX	2200	4.92	15.26
18	SG Blowdown	12638	-20.18	2.95	04-004	KT sump	321	-20.18	-7.55
					07-018	SG blowdown (LCQ) HX	12041	-7.55	2.95
					07-019	KT sump	275	-7.55	2.95
19	Lower Annulus Rooms L1 & L2	22952	-7.55	4.92	07-014	JND-JNG-JMQ piping penetrations (SAB1/2)	22952	-7.55	4.92
20	Lower Annulus Rooms L3 & L4	22952	-7.55	4.92	07-015	JND-JNG-JMQ piping penetrations (SAB3/4)	22952	-7.55	4.92

Table 06.02.01-11-1—Containment Control Volumes
(7 Sheets)

Control Volume					Associated Rooms				
No.	Description	Volume (ft^3)	From El. (ft)	To El. (ft)	ID (30UJA)	Description	Volume (ft^3)	From El. (ft)	To El. (ft)
21	Middle Annulus Rooms L1 & L2	186709	4.92	63.98	11-013	Annular space loop1	10911	4.92	16.9
					11-014	Annular space loop2	16208	4.92	16.9
					11-021	FAL valves	1448	4.92	15.26
					11-025	JND-JNG valves loop 1	1946	4.92	15.26
					11-026	JND-JNG valves loop 2	1677	4.92	15.26
					11-031	Access loops 1 & 2	742	4.92	12.17
					15-013	Annular space accumulator tank loop1	15148	16.9	28.54
					15-014	Annular space accumulator tank loop2	17585	16.9	28.54
					15-020	Transfer tube access	2331	16.9	27.89
					15-021	Transfer compartment	9428	20.67	63.98
					15-025	FAL valves	1667	16.9	26.9
					18-013	Annular space accumulator tank loop1	27260	28.54	45.28
					18-014	Annular space accumulator tank loop2	27719	28.54	45.28
					23-013	Annular space accumulator tank loop1	23658	45.28	63.98
					23-014	Annular space accumulator tank loop2	24393	45.28	63.98
					23-042	Instrument measuring cabinet	4590	49.11	61.35
22	Middle Annulus Rooms L3 & L4	180558	4.92	63.98	11-015	Annular space loop 3	17196	4.92	16.9
					11-016	Annular space loop 4	11970	4.92	16.9
					11-027	JND-JNG valves loop 3	1677	4.92	15.26
					11-028	JND-JNG valves loop 4	1946	4.92	15.26
					11-032	Access loops 3 & 4	742	4.92	12.17
					15-015	Annular space accumulator tank loop3	18821	16.9	28.54
					15-016	Annular space accumulator tank loop4	18927	16.9	28.54

Table 06.02.01-11-1—Containment Control Volumes (7 Sheets)

Control Volume					Associated Rooms				
No.	Description	Volume (ft^3)	From El. (ft)	To El. (ft)	ID (30UJA)	Description	Volume (ft^3)	From El. (ft)	To El. (ft)
					18-015	Annular space accumulator tank loop3	28708	28.54	45.28
					18-016	Annular space accumulator tank loop4	29379	28.54	45.28
					23-015	Annular space accumulator tank loop3	25106	45.28	63.98
					23-016	Annular space accumulator tank loop4	26088	45.28	63.98
23	Upper Annulus Rooms L1 & L2	82062	63.98	93.5	29-014	Annular space (240deg-0deg)	31250	63.98	77.43
					29-018	Operating floor access	6850	63.98	75.79
					34-014	Annular space (240deg-0deg)	34958	79.07	93.5
					34-018	RPV closure head storage area	9004	79.07	93.5
24	Upper Annulus Rooms L3 & L4	65431	63.98	93.5	29-015	Annular space (0deg-120deg)	25071	63.98	77.43
					29-022	KLA (containment ventilation) equipment	8121	63.98	77.43
					34-015	Annular space (0deg-120deg)	24541	79.07	93.5
					34-022	KLA (containment ventilation) equipment	7698	79.07	91.86
25	Lower & Upper Dome L1, L2, L3 & L4	2E+06	20.67	188.68	15-023	Instrumentation lance storage	279	20.67	63.98
					29-013	Set down area operating floor	96186	63.98	93.5
					29-016	Access area (equipment hatch)	106992	63.98	93.5
					34-104	SG L1&2 above rupture disks and dampers	11052	103.51	113.02
					34-108	SG L3&4 above rupture disks and dampers	11052	103.51	113.02
					40-001	Dome	1390890	93.5	188.68
26	Access	19103	-7.55	15.26	07-013	Access	9746	-7.55	4.92
					11-020	Anteroom personnel airlock	9357	4.92	15.26

Table 06.02.01-11-1—Containment Control Volumes (7 Sheets)

Control Volume					Associated Rooms				
No.	Description	Volume (ft^3)	From El. (ft)	To El. (ft)	ID (30UJA)	Description	Volume (ft^3)	From El. (ft)	To El. (ft)
27	Staircase (South)	14311	4.92	77.43	11-010	Staircase (south)	1550	4.92	16.9
					15-010	Staircase (south)	1504	16.9	28.54
					18-010	Staircase (south)	2161	28.54	45.28
					23-010	Staircase (south)	1999	45.28	63.98
					29-023	Anteroom emergency airlock	7097	63.98	77.43
28	Staircase (North)	12828	16.9	91.86	15-011	Staircase (north)	2182	16.9	28.54
					18-011	Staircase (north)	3136	28.54	45.28
					23-011	Staircase (north)	3496	45.28	63.98
					29-011	Staircase (north)	2814	63.98	79.07
					34-011	Staircase (north)	1201	79.07	91.86
29	Elevator	5275.4	-12.14	92.52	04-012	Elevator	233	-12.14	-7.55
					07-012	Elevator	629	-7.55	4.92
					11-012	Elevator	604	4.92	16.9
					15-012	Elevator	586	16.9	28.54
					18-012	Elevator	844	28.54	45.28
					23-012	Elevator	943	45.28	63.98
					29-012	Elevator	759	63.98	79.07
					34-012	Elevator	678	79.07	92.52
30	Hot Piping Penetrations	22811	-7.55	4.92	07-016	Hot penetrations	22811	-7.55	4.92
31	(see Note below)				Annulus				
32	(see Note below)				Ground				

Note:
CV 31 (annulus) and CV 32 (ground) are not part of the containment model. They are included here as boundary regions for heat sinks.

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Containment Wall with Steel Liner	0.0079	0.236	0.118	48.11	98780.4				
Access to RB annulus	0.0079	0.236	0.118	51.42	834.8	20	26	31	
Lower annulus rooms L1 & 2 to RB	0.0079	0.236	0.118	51.42	1627.9	24	19	31	
Lower annulus rooms L3 & 4 to RB	0.0079	0.236	0.118	51.42	1627.9	28	20	31	
Hot piping to RB annulus	0.0079	0.236	0.118	51.42	1920.1	30	30	31	
Middle annulus rooms L1 & 2 to RB	0.0079	0.236	0.118	51.42	12279.6	80	21	31	
Middle annulus rooms L3 & 4 to RB	0.0079	0.236	0.118	51.40	13663.5	87	22	31	
Access to RB annulus	0.0079	0.236	0.118	51.42	709.9	100	26	31	
Middle annulus rooms L3 & 4 to RB	0.0079	0.236	0.118	51.42	1403.8	135	22	31	
Lower & upper dome L1, 2, 3 & 4 to RB	0.0079	0.236	0.118	51.42	5568.3	216	25	31	
Upper annulus rooms L1 & 2 to RB	0.0079	0.236	0.118	51.42	3559.0	220	23	31	
Upper annulus rooms L3 & 4 to RB	0.0079	0.236	0.118	51.42	3559.0	225	24	31	
Staircase (south) to RB annulus	0.0079	0.236	0.118	51.42	470.4	231	27	31	
Lower & upper dome L1, 2, 3 & 4 to RB	0.0079	0.236	0.118	51.18	24859.3	318	25	31	
Lower & upper dome L1, 2, 3 & 4 to RB	0.0079	0.236	0.118	39.37	26694.5	319	25	31	Horizontal
IRWST Vertical Wall		0.157		55.28	7201.1				
Spreading rooms to IRWST		0.157		47.24	452.7	1	1	2	
IRWST to SG blowdown (LCQ) HX etc.		0.157		11.81	211.6	5	2	18	
IRWST to components		0.157		31.50	408.6	6	2	17	
IRWST to elevator		0.157		29.13	22.4	7	2	29	
IRWST to lower annulus rooms L1 & 2		0.157		59.06	6027.8	8	2	19	
IRWST to hot piping		0.157		59.06	74.1	9	2	30	

[1] Floors and ceilings are identified by the word “Horizontal.” A blank in this column indicates that the heat sink is vertical.

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
IRWST horizontal wall (floor/ceiling)		0.157		56.46	10580.9				
IRWST to SG blowdown (LCQ) HX etc.		0.157		39.37	695.8	10	2	18	Horizontal
IRWST to components		0.157		31.50	501.2	11	2	17	Horizontal
IRWST to lower equipment rooms L1		0.157		59.06	848.2	302	2	3	Horizontal
IRWST to lower equipment rooms L2		0.157		59.06	1498.3	303	2	4	Horizontal
IRWST to lower equipment rooms L3		0.157		59.06	1498.3	304	2	10	Horizontal
IRWST to lower equipment rooms L4		0.157		59.06	848.2	305	2	11	Horizontal
IRWST to lower equipment rooms L1		0.157		59.06	848.2	313	2	3	Horizontal
IRWST to lower equipment rooms L2		0.157		59.06	1498.3	314	2	4	Horizontal
IRWST to lower equipment rooms L3		0.157		59.06	1498.3	315	2	10	Horizontal
IRWST to lower equipment rooms L4		0.157		59.06	848.2	316	2	10	Horizontal
IRWST Basemat		0.157		157.48	12400.0				
IRWST to ground		0.157		157.48	6350.7	297	2	32	Horizontal
IRWST to Ambient		0.157		157.48	6049.3	308	2	adiabatic	Horizontal
Vertical wall to accessible space	0.0157			15.35	89792.5				
Access to elevator	0.0157			3.94	563.4	13	26	29	
Lower annulus rooms L1 & 2 to elevator	0.0157			3.94	135.0	14	19	29	
Lower annulus rooms L1 & 2 to access	0.0157			3.94	151.6	16	19	26	
Lower annulus rooms L3 & 4 to access	0.0157			3.94	296.7	17	20	26	
Lower annulus rooms L1 & 2 to hot piping	0.0157			5.91	223.9	21	19	30	
Lower annulus rooms L3 & 4 to hot piping	0.0157			5.91	223.9	25	20	30	
Middle annulus rooms L1 & 2 to staircase (south)	0.0157			5.91	3905.4	73	21	27	
Middle annulus rooms L1 & 2 to elevator	0.0157			3.94	1926.1	74	21	29	
Internal wall in middle annulus rooms L1 & 2	0.0157			5.20	2012.4	76	21	21	
Internal wall in middle annulus rooms L1 & 2	0.0157			9.84	2047.7	78	21	21	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Middle annulus rooms L1 & 2 to access	0.0157			3.94	191.6	82	21	26	
Middle annulus rooms L3 & 4 to access	0.0157			3.94	176.3	84	22	26	
Internal wall in middle annulus rooms L3 & 4	0.0157			9.84	2195.4	85	22	22	
Middle annulus rooms L1 & 2 to staircase (north)	0.0157			5.91	2466.2	127	21	28	
Middle annulus rooms L3 & 4 to staircase (north)	0.0157			5.91	2401.2	128	22	28	
Middle annulus rooms L1 & 2 to middle annulus rooms L3 & 4	0.0157			28.08	3932.9	132	21	22	
Internal wall in middle annulus rooms L3 & 4	0.0157			23.62	304.4	133	22	22	
Internal wall in middle annulus rooms L1 & 2	0.0157			29.72	512.4	142	21	21	
Middle annulus rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			17.49	1131.5	143	21	25	
Middle annulus rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			27.56	1682.6	144	21	25	
Middle annulus rooms L1 & 2 to staircase (north)	0.0157			19.69	271.3	178	21	28	
Middle annulus rooms L1 & 2 to elevator	0.0157			19.69	1105.9	179	21	29	
Internal wall in middle annulus rooms L1 & 2	0.0157			19.69	380.0	183	21	21	
Middle annulus rooms L1 & 2 to upper annulus rooms L1 & 2	0.0157			19.69	3775.5	184	21	23	
Upper annulus rooms L1 & 2 to staircase (north)	0.0157			5.91	864.8	209	23	28	
Upper annulus rooms L3 & 4 to staircase (north)	0.0157			5.91	1186.8	210	24	28	
Upper annulus rooms L1 & 2 to staircase (north)	0.0157			19.69	175.7	211	23	28	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Upper annulus rooms L1 & 2 to elevator	0.0157			3.94	1325.0	212	23	29	
Upper annulus rooms L1 & 2 to elevator	0.0157			19.69	147.3	213	23	29	
Upper annulus rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			25.59	155.0	214	23	25	
Lower & upper dome L1, 2, 3 & 4 to staircase (south)	0.0157			5.91	626.7	215	25	27	
Internal wall in upper annulus rooms L1 & 2	0.0157			19.69	151.1	217	23	23	
Upper annulus rooms L1 & 2 to staircase (south)	0.0157			5.91	318.8	218	23	27	
Upper annulus rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0157			19.69	338.8	221	24	25	
Internal wall in upper annulus rooms L3 & 4	0.0157			5.91	2155.8	223	24	24	
Internal wall in lower & upper dome L1, 2, 3 & 4	0.0157			17.37	5826.7	235	25	25	
Upper annulus rooms L1 & 2 to staircase (north)	0.0157			9.84	322.1	236	23	28	
Upper annulus rooms L1 & 2 to elevator	0.0157			9.84	270.0	238	23	29	
Internal wall in upper annulus rooms L1 & 2	0.0157			9.84	405.6	240	23	23	
Upper annulus rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			9.84	280.3	242	23	25	
SG blowdown (LCQ) HX etc. to elevator	0.0157			15.75	89.6	15	18	29	
SG blowdown (LCQ) HX etc. to access	0.0157			3.94	400.3	18	18	26	
SG blowdown (LCQ) HX etc. to lower annulus rooms L1 & 2	0.0157			15.75	54.0	22	18	19	
SG blowdown (LCQ) HX etc. to lower annulus rooms L3 & 4	0.0157			5.91	55.1	26	18	20	
Components to hot piping	0.0157			19.69	829.7	31	17	30	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Components to hot piping	0.0157			5.91	99.9	32	17	30	
lower equipment rooms L1 to staircase (south)	0.0157			23.62	647.9	59	3	27	
lower equipment rooms L1 to middle annulus rooms L1 & 2	0.0157			23.62	1917.3	60	3	21	
lower equipment rooms L1 to components	0.0157			10.80	325.0	61	3	17	
lower equipment rooms L2 to middle annulus rooms L1 & 2	0.0157			23.62	1880.6	63	4	21	
lower equipment rooms L3 to middle annulus rooms L3 & 4	0.0157			23.62	1909.0	66	10	22	
lower equipment rooms L4 to middle annulus rooms L3 & 4	0.0157			23.62	2164.5	69	11	22	
surge line, below to elevator	0.0157			18.81	480.1	75	15	29	
Components to middle annulus rooms L1 & 2	0.0157			15.75	377.0	77	17	21	
surge line, below to middle annulus rooms L1 & 2	0.0157			23.62	134.1	81	15	21	
surge line, below to middle annulus rooms L3 & 4	0.0157			17.31	98.1	83	15	22	
Components to middle annulus rooms L3 & 4	0.0157			11.81	72.8	88	17	22	
Components to middle annulus rooms L3 & 4	0.0157			15.75	359.9	89	17	22	
Components to middle annulus rooms L3 & 4	0.0157			5.91	183.1	90	17	22	
Surge line, below to access	0.0157			15.75	522.6	96	15	26	
reactor cavity to upper annulus rooms L1 & 2	0.0157			19.69	454.6	117	9	23	
Surge line, below to staircase (north)	0.0157			23.62	308.7	129	15	28	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Surge line, below to elevator	0.0157			23.62	130.5	130	15	29	
Surge line, below to middle annulus rooms L3 & 4	0.0157			23.62	152.2	134	15	22	
Reactor cavity to middle annulus rooms L1 & 2	0.0157			15.75	180.8	136	9	21	
Reactor cavity to lower & upper dome L1, 2, 3 & 4	0.0157			15.75	248.0	137	9	25	
Middle equipment rooms L1 to staircase (south)	0.0157			23.62	609.8	148	5	27	
Middle equipment rooms L1 to middle annulus rooms L1 & 2	0.0157			23.62	1233.7	149	5	21	
Middle equipment rooms L2 to middle annulus rooms L1 & 2	0.0157			23.62	1378.0	152	6	21	
Middle equipment rooms L3 to middle annulus rooms L3 & 4	0.0157			23.62	1694.7	155	12	22	
Middle equipment rooms L4 to middle annulus	0.0157			23.62	1495.3	159	13	22	
Surge line, below to staircase (north)	0.0157			19.69	370.9	160	15	28	
Surge line, below to middle annulus rooms L1 & 2	0.0157			19.69	319.0	161	15	21	
Surge line, below to middle annulus rooms L1 & 2	0.0157			10.83	452.9	163	15	21	
Middle equipment rooms L2 to middle annulus rooms L1 & 2	0.0157			15.75	283.1	168	6	21	
Middle equipment rooms L1 to staircase (south)	0.0157			5.91	90.4	176	5	27	
PZR to staircase (north)	0.0157			19.69	421.1	177	16	28	
Middle equipment rooms L1 to middle annulus rooms L1 & 2	0.0157			4.21	854.4	180	5	21	
Middle equipment rooms L4 to middle annulus rooms L3 & 4	0.0157			4.32	932.2	185	13	22	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
PZR to middle annulus rooms L3 & 4	0.0157			19.69	459.6	186	16	22	
PZR to middle annulus rooms L1 & 2	0.0157			15.75	347.8	192	16	21	
Upper equipment rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			5.91	1679.6	197	7	25	
Upper equipment rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			17.41	3410.4	198	7	25	
Upper equipment rooms L1 & 2 to upper annulus rooms L1 & 2	0.0157			19.69	2991.4	199	7	23	
Upper equipment rooms L1 & 2 to staircase (south)	0.0157			19.69	176.5	200	7	27	
Upper equipment rooms L1 & 2 to upper annulus rooms L1 & 2	0.0157			9.84	464.9	201	7	23	
Upper equipment rooms L3 & 4 to upper annulus rooms L3 & 4	0.0157			19.69	2451.2	203	14	24	
Upper equipment rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0157			9.84	320.4	204	14	25	
Upper equipment rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0157			17.44	3457.6	207	14	25	
Upper equipment rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0157			5.91	1679.6	208	14	25	
PZR to upper annulus rooms L3 & 4	0.0157			19.69	512.3	222	16	24	
PZR to upper annulus rooms L1 & 2	0.0157			15.75	716.6	227	16	23	
Upper equipment rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			9.84	162.4	232	7	25	
PZR to lower & upper dome L1, 2, 3 & 4	0.0157			15.75	188.2	244	16	25	
Vertical wall to non-accessible space	0.0157			19.72	118747.5				
Spreading rooms to components	0.0157			23.62	980.8	2	1	17	
Spreading rooms to components	0.0157			9.84	983.8	37	1	17	
Spreading rooms to lower equipment rooms L4	0.0157			10.73	451.2	38	1	11	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Spreading rooms to components	0.0157			15.75	271.0	39	1	17	
Internal wall in SG blowdown (LCQ) HX etc.	0.0157			9.84	136.1	40	18	18	
RPV pit to SG blowdown (LCQ) HX etc.	0.0157			53.54	56.0	42	8	18	
Internal wall in components	0.0157			9.99	3221.9	43	17	17	
RPV pit to components	0.0157			53.54	1136.7	44	8	17	
Internal wall in components	0.0157			7.87	504.8	51	17	17	
Lower equipment rooms L1 to RPV pit	0.0157			39.82	700.7	52	3	8	
Lower equipment rooms L2 to RPV pit	0.0157			40.27	661.1	53	4	8	
RPV pit to lower equipment rooms L3	0.0157			40.27	661.1	54	8	10	
RPV pit to lower equipment rooms L4	0.0157			40.20	683.3	55	8	11	
RPV pit to surge line, below	0.0157			32.62	289.3	56	8	15	
Lower equipment rooms L1 to lower equipment rooms L4	0.0157			9.84	333.3	58	3	11	
Lower equipment rooms L2 to surge line, below	0.0157			17.97	1659.6	64	4	15	
Lower equipment rooms L3 to surge line, below	0.0157			17.71	1882.2	67	10	15	
Lower equipment rooms L4 to components	0.0157			9.84	80.3	70	11	17	
Lower equipment rooms L4 to components	0.0157			23.62	370.3	71	11	17	
Internal wall in surge line, below	0.0157			9.84	1665.0	93	15	15	
Internal wall in components	0.0157			15.75	287.0	101	17	17	
Lower equipment rooms L1 to reactor cavity	0.0157			23.62	734.5	105	3	9	
Lower equipment rooms L2 to reactor cavity	0.0157			23.62	328.1	106	4	9	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Reactor cavity to lower equipment rooms L3	0.0157			23.62	328.1	107	9	10	
Reactor cavity to lower equipment rooms L4	0.0157			23.62	701.8	108	9	11	
Internal wall in reactor cavity	0.0157			23.62	234.0	109	9	9	
Reactor cavity to surge line, below	0.0157			23.62	1773.9	110	9	15	
Middle equipment rooms L1 to reactor cavity	0.0157			23.62	6131.1	111	5	9	
Middle equipment rooms L2 to reactor cavity	0.0157			23.62	2746.1	112	6	9	
Reactor cavity to middle equipment rooms L3	0.0157			23.62	2697.9	113	9	12	
Reactor cavity to middle equipment rooms L4	0.0157			23.62	6163.8	114	9	13	
Reactor cavity to PZR	0.0157			23.62	1426.6	115	9	16	
Internal wall in equipment rooms L1	0.0157			19.69	909.1	118	3	3	
Lower equipment rooms L1 to lower equipment rooms L2	0.0157			19.69	1818.2	119	3	4	
Internal wall in lower equipment rooms L2	0.0157			19.69	1888.9	120	4	4	
Lower equipment rooms L2 to reactor cavity	0.0157			15.75	271.3	121	4	9	
Internal wall in lower equipment rooms L3	0.0157			19.69	1888.9	122	10	10	
Lower equipment rooms L3 to lower equipment rooms L4	0.0157			19.69	1818.2	123	10	11	
Internal wall in lower equipment rooms L4	0.0157			19.69	1818.2	124	11	11	
Lower equipment rooms L4 to middle equipment rooms L4	0.0157			23.62	901.8	125	11	13	
Internal wall in surge line, below	0.0157			15.75	1763.8	138	15	15	
Reactor cavity to surge line, below	0.0157			9.84	318.8	139	9	15	
Reactor cavity to surge line, below	0.0157			15.75	183.0	141	9	15	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Internal wall in middle equipment rooms L1	0.0157			19.69	1367.9	147	5	5	
Middle equipment rooms L1 to middle equipment rooms L2	0.0157			29.57	668.9	150	5	6	
Internal wall in middle equipment rooms L2	0.0157			19.69	1359.3	151	6	6	
Middle equipment rooms L2 to surge line, below	0.0157			15.75	1185.8	153	6	15	
Internal wall in middle equipment rooms L3	0.0157			19.69	1361.4	154	12	12	
Middle equipment rooms L3 to surge line, below	0.0157			15.75	1227.1	156	12	15	
Middle equipment rooms L3 to middle equipment rooms L4	0.0157			29.59	666.7	157	12	13	
Internal wall in middle equipment rooms L4	0.0157			19.69	1372.6	158	13	13	
Surge line, below to PZR	0.0157			10.83	1899.0	162	15	16	
Internal wall in middle equipment rooms L1	0.0157			23.62	825.8	164	5	5	
Middle equipment rooms L1 to middle equipment rooms L2	0.0157			19.69	665.2	166	5	6	
Middle equipment rooms L2 to PZR	0.0157			15.75	192.0	167	6	16	
Middle equipment rooms L3 to PZR	0.0157			15.75	914.9	170	12	16	
Middle equipment rooms L3 to middle equipment rooms L4	0.0157			19.69	665.2	173	12	13	
Internal wall in middle equipment rooms L4	0.0157			23.62	764.7	174	13	13	
Internal wall in PZR	0.0157			15.75	546.4	191	16	16	
Internal wall in upper equipment rooms L1 & 2	0.0157			17.85	2436.3	196	7	7	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Internal wall in upper equipment rooms L3 & 4	0.0157			17.85	2436.3	202	14	14	
Upper equipment rooms L3 & 4 to PZR	0.0157			9.84	1097.9	205	14	16	
SG blowdown (LCQ) HX etc. to elevator	0.0157			15.75	89.6	15	18	29	
SG blowdown (LCQ) HX etc. to access	0.0157			3.94	400.3	18	18	26	
SG blowdown (LCQ) HX etc. to lower annulus rooms L1 & 2	0.0157			15.75	54.0	22	18	19	
SG blowdown (LCQ) HX etc. to lower annulus rooms L3 & 4	0.0157			5.91	55.1	26	18	20	
Components to hot piping	0.0157			19.69	829.7	31	17	30	
Components to hot piping	0.0157			5.91	99.9	32	17	30	
Lower equipment rooms L1 to staircase (south)	0.0157			23.62	647.9	59	3	27	
Lower equipment rooms L1 to middle annulus rooms L1 & 2	0.0157			23.62	1917.3	60	3	21	
Lower equipment rooms L1 to components	0.0157			10.80	325.0	61	3	17	
Lower equipment rooms L2 to middle annulus rooms L1 & 2	0.0157			23.62	1880.6	63	4	21	
Lower equipment rooms L3 to middle annulus rooms L3 & 4	0.0157			23.62	1909.0	66	10	22	
Lower equipment rooms L4 to middle annulus rooms L3 & 4	0.0157			23.62	2164.5	69	11	22	
Surge line, below to elevator	0.0157			18.81	480.1	75	15	29	
Components to middle annulus rooms L1 & 2	0.0157			15.75	377.0	77	17	21	
Surge line, below to middle annulus rooms L1 & 2	0.0157			23.62	134.1	81	15	21	
Surge line, below to middle annulus rooms L3 & 4	0.0157			17.31	98.1	83	15	22	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Components to middle annulus rooms L3 & 4	0.0157			11.81	72.8	88	17	22	
Components to middle annulus rooms L3 & 4	0.0157			15.75	359.9	89	17	22	
Components to middle annulus rooms L3 & 4	0.0157			5.91	183.1	90	17	22	
Surge line, below to access	0.0157			15.75	522.6	96	15	26	
Reactor cavity to upper annulus rooms L1 & 2	0.0157			19.69	454.6	117	9	23	
Surge line, below to staircase (north)	0.0157			23.62	308.7	129	15	28	
Surge line, below to elevator	0.0157			23.62	130.5	130	15	29	
Surge line, below to middle annulus rooms L3 & 4	0.0157			23.62	152.2	134	15	22	
Reactor cavity to middle annulus rooms L1 & 2	0.0157			15.75	180.8	136	9	21	
Reactor cavity to lower & upper dome L1, 2, 3 & 4	0.0157			15.75	248.0	137	9	25	
Middle equipment rooms L1 to staircase (south)	0.0157			23.62	609.8	148	5	27	
Middle equipment rooms L1 to middle annulus rooms L1 & 2	0.0157			23.62	1233.7	149	5	21	
Middle equipment rooms L2 to middle annulus rooms L1 & 2	0.0157			23.62	1378.0	152	6	21	
Middle equipment rooms L3 to middle annulus rooms L3 & 4	0.0157			23.62	1694.7	155	12	22	
Middle equipment rooms L4 to middle annulus rooms L3 & 4	0.0157			23.62	1495.3	159	13	22	
Surge line, below to staircase (north)	0.0157			19.69	370.9	160	15	28	
Surge line, below to middle annulus rooms L1 & 2	0.0157			19.69	319.0	161	15	21	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Surge line, below to middle annulus rooms L1 & 2	0.0157			10.83	452.9	163	15	21	
Middle equipment rooms L2 to middle annulus rooms L1 & 2	0.0157			15.75	283.1	168	6	21	
Middle equipment rooms L1 to staircase (south)	0.0157			5.91	90.4	176	5	27	
PZR to staircase (north)	0.0157			19.69	421.1	177	16	28	
Middle equipment rooms L1 to middle annulus rooms L1 & 2	0.0157			4.21	854.4	180	5	21	
Middle equipment rooms L4 to middle annulus rooms L3 & 4	0.0157			4.32	932.2	185	13	22	
PZR to middle annulus rooms L3 & 4	0.0157			19.69	459.6	186	16	22	
PZR to middle annulus rooms L1 & 2	0.0157			15.75	347.8	192	16	21	
Upper equipment rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			5.91	1679.6	197	7	25	
Upper equipment rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			17.41	3410.4	198	7	25	
Upper equipment rooms L1 & 2 to upper annulus rooms L1 & 2	0.0157			19.69	2991.4	199	7	23	
Upper equipment rooms L1 & 2 to staircase (south)	0.0157			19.69	176.5	200	7	27	
Upper equipment rooms L1 & 2 to upper annulus rooms L1 & 2	0.0157			9.84	464.9	201	7	23	
Upper equipment rooms L3 & 4 to upper annulus rooms L3 & 4	0.0157			19.69	2451.2	203	14	24	
Upper equipment rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0157			9.84	320.4	204	14	25	
Upper equipment rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0157			17.44	3457.6	207	14	25	
Upper equipment rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0157			5.91	1679.6	208	14	25	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
PZR to upper annulus rooms L3 & 4	0.0157			19.69	512.3	222	16	24	
PZR to upper annulus rooms L1 & 2	0.0157			15.75	716.6	227	16	23	
Upper equipment rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0157			9.84	162.4	232	7	25	
PZR to lower & upper dome L1, 2, 3 & 4	0.0157			15.75	188.2	244	16	25	
Horizontal wall (floor/ceiling) to accessible space	0.0394			12.52	86714.1				
Internal wall in access	0.0394			11.81	257.7	19	26	26	Horizontal
Lower annulus rooms L1 & 2 to middle annulus rooms L1 & 2	0.0394			11.81	6412.5	23	19	21	Horizontal
Lower annulus rooms L3 & 4 to middle annulus rooms L3 & 4	0.0394			11.81	8140.7	27	20	22	Horizontal
Staircase (south) to hot piping	0.0394			11.81	346.8	33	27	30	Horizontal
Middle annulus rooms L1 & 2 to hot piping	0.0394			11.81	3084.3	34	21	30	Horizontal
Middle annulus rooms L3 & 4 to hot piping	0.0394			11.81	2691.0	35	22	30	Horizontal
Internal wall in middle annulus rooms L1 & 2	0.0394			9.84	6032.1	79	21	21	Horizontal
Internal wall in middle annulus rooms L3 & 4	0.0394			9.84	5369.0	86	22	22	Horizontal
Internal wall in middle annulus rooms L3 & 4	0.0394			5.88	8424.1	91	22	22	Horizontal
Middle annulus rooms L1 & 2 to middle annulus rooms L3 & 4	0.0394			37.40	394.0	92	21	22	Horizontal
Access to staircase (north)	0.0394			9.84	521.0	97	26	28	Horizontal
Middle annulus rooms L1 & 2 to access	0.0394			9.84	505.9	98	21	26	Horizontal
Middle annulus rooms L3 & 4 to access	0.0394			9.84	561.9	99	22	26	Horizontal
Internal wall in middle annulus rooms L1 & 2	0.0394			5.91	7746.6	131	21	21	Horizontal

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Internal wall in lower & upper dome L1, 2, 3 & 4	0.0394			5.91	187.1	145	25	25	Horizontal
Middle annulus rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	1797.6	181	21	25	Horizontal
Middle annulus rooms L1 & 2 to staircase (south)	0.0394			19.69	439.4	182	21	27	Horizontal
Middle annulus rooms L3 & 4 to upper annulus rooms L3 & 4	0.0394			19.69	3940.5	187	22	24	Horizontal
Middle annulus rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	3607.6	188	22	25	Horizontal
Middle annulus rooms L1 & 2 to upper annulus rooms L1 & 2	0.0394			19.69	907.0	195	21	23	Horizontal
Internal wall in upper annulus rooms L1 & 2	0.0394			9.84	3864.2	219	23	23	Horizontal
Internal wall in upper annulus rooms L3 & 4	0.0394			9.84	4628.5	224	24	24	Horizontal
Internal wall in upper annulus rooms L1 & 2	0.0394			19.69	1420.8	228	23	23	Horizontal
Upper annulus rooms L1 & 2 to staircase (south)	0.0394			9.84	1055.9	230	23	27	Horizontal
Lower & upper dome L1, 2, 3 & 4 to staircase (north)	0.0394			9.84	312.2	237	25	28	Horizontal
Lower & upper dome L1, 2, 3 & 4 to elevator	0.0394			5.91	144.7	239	25	29	Horizontal
Upper annulus rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0394			9.84	2411.1	241	24	25	Horizontal
Upper annulus rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	1420.8	243	23	25	Horizontal
Components to hot piping	0.0394			11.81	121.6	36	17	30	Horizontal
Components to middle annulus rooms L1 & 2	0.0394			11.81	102.8	46	17	21	Horizontal

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Components to staircase (south)	0.0394			11.81	83.4	48	17	27	Horizontal
Components to middle annulus rooms L3 & 4	0.0394			10.33	291.7	49	17	22	Horizontal
Components to middle annulus rooms L1 & 2	0.0394			37.40	255.1	103	17	21	Horizontal
Components to lower & upper dome L1, 2, 3 & 4	0.0394			37.40	284.2	104	17	25	Horizontal
Reactor cavity to lower & upper dome L1, 2, 3 & 4	0.0394			23.62	5283.4	116	9	25	Horizontal
Middle equipment rooms L1 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	751.3	165	5	25	Horizontal
Middle equipment rooms L2 to upper annulus rooms L1 & 2	0.0394			19.69	73.0	169	6	23	Horizontal
Middle equipment rooms L3 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	183.8	171	12	25	Horizontal
Middle equipment rooms L4 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	386.2	175	13	25	Horizontal
Middle equipment rooms L1 to upper annulus rooms L1 & 2	0.0394			19.69	514.5	189	5	23	Horizontal
Middle equipment rooms L4 to upper annulus rooms L3 & 4	0.0394			19.69	263.8	190	13	24	Horizontal
PZR to upper annulus rooms L1 & 2	0.0394			19.69	138.6	194	16	23	Horizontal
Upper equipment rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0394			9.84	344.4	233	7	25	Horizontal
Upper equipment rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0394			9.84	366.0	234	14	25	Horizontal
PZR to lower & upper dome L1, 2, 3 & 4	0.0394			9.84	645.8	245	16	25	Horizontal
Horizontal wall (floor/ceiling) to non-accessible space	0.0394			17.28	33023.7				
Spreading rooms to components	0.0394			27.56	4991.4	3	1	17	Horizontal

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Spreading rooms to components	0.0394			5.91	359.5	4	1	17	Horizontal
Internal wall in components	0.0394			27.56	288.5	12	17	17	Horizontal
Surge line, below to SG blowdown (LCQ) HX etc.	0.0394			11.81	2947.6	41	15	18	Horizontal
Lower equipment rooms L4 to components	0.0394			11.81	1490.6	45	11	17	Horizontal
Lower equipment rooms L1 to components	0.0394			11.81	873.4	47	3	17	Horizontal
Internal wall in components	0.0394			11.81	1783.4	50	17	17	Horizontal
RPV pit to reactor cavity	0.0394			11.81	818.1	57	8	9	Horizontal
Lower equipment rooms L1 to reactor cavity	0.0394			23.62	477.9	62	3	9	Horizontal
Lower equipment rooms L2 to reactor cavity	0.0394			26.77	58.1	65	4	9	Horizontal
Lower equipment rooms L3 to surge line, below	0.0394			34.65	58.1	68	10	15	Horizontal
Reactor cavity to lower equipment rooms L4	0.0394			23.62	602.8	72	9	11	Horizontal
Internal wall in surge line, below	0.0394			11.81	2436.9	94	15	15	Horizontal
Reactor cavity to surge line, below	0.0394			26.77	185.1	95	9	15	Horizontal
Reactor cavity to components	0.0394			23.62	368.1	102	9	17	Horizontal
Lower equipment rooms L4 to middle equipment rooms L4	0.0394			5.91	665.0	126	11	13	Horizontal
Internal wall in surge line, below	0.0394			5.91	2346.5	140	15	15	Horizontal
Reactor cavity to surge line, below	0.0394			5.91	187.1	146	9	15	Horizontal
Middle equipment rooms L3 to PZR	0.0394			19.69	102.0	172	12	16	Horizontal
Internal wall in PZR	0.0394			19.69	866.3	193	16	16	Horizontal
Internal wall in upper equipment rooms L3 & 4	0.0394			5.91	47.4	206	14	14	Horizontal

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Internal wall in PZR	0.0394			9.84	977.4	229	16	16	Horizontal
Components to hot piping	0.0394			11.81	121.6	36	17	30	Horizontal
Components to middle annulus rooms L1 & 2	0.0394			11.81	102.8	46	17	21	Horizontal
Components to staircase (south)	0.0394			11.81	83.4	48	17	27	Horizontal
Components to middle annulus rooms L3 & 4	0.0394			10.33	291.7	49	17	22	Horizontal
Components to middle annulus rooms L1 & 2	0.0394			37.40	255.1	103	17	21	Horizontal
Components to lower & upper dome L1, 2, 3 & 4	0.0394			37.40	284.2	104	17	25	Horizontal
Reactor cavity to lower & upper dome L1, 2, 3 & 4	0.0394			23.62	5283.4	116	9	25	Horizontal
Middle equipment rooms L1 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	751.3	165	5	25	Horizontal
Middle equipment rooms L2 to upper annulus rooms L1 & 2	0.0394			19.69	73.0	169	6	23	Horizontal
Middle equipment rooms L3 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	183.8	171	12	25	Horizontal
Middle equipment rooms L4 to lower & upper dome L1, 2, 3 & 4	0.0394			19.69	386.2	175	13	25	Horizontal
Middle equipment rooms L1 to upper annulus rooms L1 & 2	0.0394			19.69	514.5	189	5	23	Horizontal
Middle equipment rooms L4 to upper annulus rooms L3 & 4	0.0394			19.69	263.8	190	13	24	Horizontal
PZR to upper annulus rooms L1 & 2	0.0394			19.69	138.6	194	16	23	Horizontal
Upper equipment rooms L1 & 2 to lower & upper dome L1, 2, 3 & 4	0.0394			9.84	344.4	233	7	25	Horizontal
Upper equipment rooms L3 & 4 to lower & upper dome L1, 2, 3 & 4	0.0394			9.84	366.0	234	14	25	Horizontal

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
PZR to lower & upper dome L1, 2, 3 & 4	0.0394			9.84	645.8	245	16	25	Horizontal
Thick steel	0.0079	1.575			26586.9				
Components to hot piping	0.0079	11.811			86.1	29	17	30	
Lower & upper dome L1, 2, 3 & 4 to RB annulus	0.0079	1.969			613.5	226	25	31	
Internal steel in lower & upper dome L1, 2, 3 & 4	0.0079	1.528			20912.1	320	25	25	
Internal steel in lower & upper dome L1, 2, 3 & 4	0.0079	1.461			4972.9	321	25	25	
Medium steel	0.0079	0.339			142406.5				
Internal steel in components	0.0079	0.339			255.3	271	17	17	
Internal steel in IRWST	0.0079	0.339			643.7	272	2	2	
Internal steel in SG blowdown (LCQ) HX etc.	0.0079	0.339			27.3	273	18	18	
Internal steel in access	0.0079	0.339			484.3	274	26	26	
Internal steel in lower annulus rooms L3 & 4	0.0079	0.339			405.2	275	20	20	
Internal steel in hot piping	0.0079	0.339			380.1	276	30	30	
Internal steel in lower annulus rooms L1 & 2	0.0079	0.339			392.6	277	19	19	
Internal steel in lower equipment rooms L3	0.0079	0.339			4287.5	278	10	10	
Internal steel in lower equipment rooms L4	0.0079	0.339			4656.1	279	11	11	
Internal steel in lower equipment rooms L1	0.0079	0.339			4656.1	280	3	3	
Internal steel in lower equipment rooms L2	0.0079	0.339			4287.5	281	4	4	
Internal steel in middle annulus rooms L3 & 4	0.0079	0.339			20763.4	282	22	22	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Internal steel in middle annulus rooms L1 & 2	0.0079	0.339			19277.2	283	21	21	
Internal steel in surge line, below	0.0079	0.339			525.1	284	15	15	
Internal steel in middle equipment rooms L3	0.0079	0.339			9969.9	285	12	12	
Internal steel in middle equipment rooms L4	0.0079	0.339			9483.2	286	13	13	
Internal steel in middle equipment rooms L1	0.0079	0.339			9483.2	287	5	5	
Internal steel in middle equipment rooms L2	0.0079	0.339			9969.9	288	6	6	
Internal steel in PZR	0.0079	0.339			127.4	289	16	16	
Internal steel in upper equipment rooms L3 & 4	0.0079	0.339			8808.6	290	14	14	
Internal steel in upper equipment rooms L1 & 2	0.0079	0.339			8808.6	291	7	7	
Internal steel in upper annulus rooms L3 & 4	0.0079	0.339			432.7	292	24	24	
Internal steel in lower & upper dome L1, 2, 3 & 4	0.0079	0.339			23623.0	293	25	25	
Internal steel in upper annulus rooms L1 & 2	0.0079	0.339			617.2	294	23	23	
Internal steel in staircase (south)	0.0079	0.339			46.2	295	27	27	
Thin steel	0.0079	0.059			93000.2				
Internal steel in components	0.0079	0.059			288.0	246	17	17	
Internal steel in IRWST	0.0079	0.059			726.6	247	2	2	
Internal steel in SG blowdown (LCQ) HX etc.	0.0079	0.059			46.3	248	18	18	
Internal steel in access	0.0079	0.059			654.9	249	26	26	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Internal steel in lower annulus rooms L3 & 4	0.0079	0.059			548.2	250	20	20	
Internal steel in hot piping	0.0079	0.059			514.3	251	30	30	
Internal steel in lower annulus rooms L1 & 2	0.0079	0.059			531.3	252	19	19	
Internal steel in lower equipment rooms L3	0.0079	0.059			2072.1	253	10	10	
Internal steel in lower equipment rooms L4	0.0079	0.059			2250.2	254	11	11	
Internal steel in lower equipment rooms L1	0.0079	0.059			2250.2	255	3	3	
Internal steel in lower equipment rooms L2	0.0079	0.059			2072.1	256	4	4	
Internal steel in middle annulus rooms L3 & 4	0.0079	0.059			17988.3	257	22	22	
Internal steel in middle annulus rooms L1 & 2	0.0079	0.059			17291.7	258	21	21	
Internal steel in surge line, below	0.0079	0.059			1179.3	259	15	15	
Internal steel in middle equipment rooms L3	0.0079	0.059			4890.5	260	12	12	
Internal steel in middle equipment rooms L4	0.0079	0.059			4606.6	261	13	13	
Internal steel in middle equipment rooms L1	0.0079	0.059			4607.9	262	5	5	
Internal steel in middle equipment rooms L2	0.0079	0.059			4890.2	263	6	6	
Internal steel in PZR	0.0079	0.059			172.5	264	16	16	
Internal steel in upper equipment rooms L3 & 4	0.0079	0.059			4470.7	265	14	14	
Internal steel in upper equipment rooms L1 & 2	0.0079	0.059			4470.7	266	7	7	

Table 06.02.01-11-2—Containment Heat Sink Inventory (22 Sheets)

Description	Thickness (in)				Surface Area (ft^2)	Heat Sink No.	Right Side CV	Left Side CV	Orientation[1]
	Paint	Steel	Air	Concrete					
Internal steel in upper annulus rooms L3 & 4	0.0079	0.059			585.6	267	24	24	
Internal steel in lower & upper dome L1, 2, 3 & 4	0.0079	0.059			14992.5	268	25	25	
Internal steel in upper annulus rooms L1 & 2	0.0079	0.059			835.3	269	23	23	
Internal steel in staircase (south)	0.0079	0.059			62.4	270	27	27	

Table 06.02.01-11-3—Containment Sub-Compartments – Flow Path Data (7 Sheets)

Junction Number	From Connection			To Connection			Flow Path Data			
	Control Volume	Room (30UJA)	Elev. (ft)	Control Volume	Room (30UJA)	Elev. (ft)	Opening Type	Opening DP (psi)	Flow Area (ft^2)	Loss Coefficient
1	1	04-002	-17.06	8	11-001	-17.06	Channel		14.21	1.5
2	1	07-017	12.57	11	11-009	12.57	Free opening		33.58	1.5
3	1	07-017	-4.27	17	07-020	-4.27	Door	1.45	13.99	1.5
4	2	04-003	-7.05	17	07-020	-5.74	Free opening		4.31	1.5
4	2	04-003	-7.05	17	07-022	-5.74	Free opening		4.31	1.5
4	2	04-003	-7.05	17	07-023	-5.74	Free opening		4.31	1.5
4	2	04-003	-7.05	17	07-024	-5.74	Free opening		4.31	1.5
5	2	04-003	0	3	11-002	4.92	Free opening		53.82	1.5
6	2	04-003	0	4	11-005	4.92	Free opening		53.82	1.5
7	2	04-003	0	10	11-006	4.92	Free opening		53.82	1.5
8	2	04-003	0	11	11-009	4.92	Free opening		53.82	1.5
9	2	04-003	-6.56	19	07-014	-6.56	Door	1.45	21.53	1.5
10	2	04-003	-6.56	20	07-015	-6.56	Door	1.45	21.53	1.5
11	2	04-003	-6.56	19	07-014	-6.56	Flaps	7.25	4.31	1.5
11	2	04-003	-6.56	19	07-014	-6.56	Flaps	7.25	4.31	1.5
11	2	04-003	-6.56	19	07-014	-6.56	Flaps	7.25	4.31	1.5
11	2	04-003	-6.56	19	07-014	-6.56	Flaps	7.25	4.31	1.5
12	2	04-003	-6.56	20	07-015	-6.56	Flaps	7.25	4.31	1.5
12	2	04-003	-6.56	20	07-015	-6.56	Flaps	7.25	4.31	1.5
12	2	04-003	-6.56	20	07-015	-6.56	Flaps	7.25	4.31	1.5
12	2	04-003	-6.56	20	07-015	-6.56	Flaps	7.25	4.31	1.5
35	8	11-001	18.5	10	15-006	18.5	Free opening		17.76	1.5
35	8	11-001	18.5	10	15-007	18.5	Free opening		17.76	1.5

Table 06.02.01-11-3—Containment Sub-Compartments – Flow Path Data (7 Sheets)

Junction Number	From Connection			To Connection			Flow Path Data			
	Control Volume	Room (30UJA)	Elev. (ft)	Control Volume	Room (30UJA)	Elev. (ft)	Opening Type	Opening DP (psi)	Flow Area (ft^2)	Loss Coefficient
36	8	11-001	18.5	11	15-008	18.5	Free opening		17.76	1.5
36	8	11-001	18.5	11	15-009	18.5	Free opening		17.76	1.5
64	17	07-021	-4.27	30	07-016	-4.27	Door	1.45	21.53	1.5
64	17	07-022	-4.27	30	07-016	-4.27	Door	1.45	21.53	1.5
64	17	07-023	-4.27	30	07-016	-4.27	Door	1.45	21.53	1.5
65	17	11-023	8.2	22	11-016	8.2	Door	1.45	21.53	1.5
66	18	07-018	-4.27	20	07-015	-4.27	Door	1.45	43.16	1.5
67	19	07-014	-4.27	30	07-016	-4.27	Free opening		42.52	1.5
68	19	07-014	4.92	21	11-013	4.92	Grating opening		13.99	1.5
68	19	07-014	4.92	21	11-013	4.92	Grating opening		34.45	1.5
69	19	07-014	4.92	21	11-014	4.92	Grating opening		39.83	1.5
69	19	07-014	-4.27	26	07-013	-4.27	Door	1.45	36.38	1.5
70	20	07-015	4.92	22	11-015	4.92	Grating opening		39.83	1.5
70	20	07-015	4.92	22	11-016	4.92	Grating opening		13.99	1.5
71	20	07-016	-4.27	30	07-015	-4.27	Free opening		42.52	1.5
72	20	07-015	-4.27	26	07-013	-4.27	Door	1.45	42.52	1.5
94	26	11-020	15.26	28	15-011	16.9	Free opening		40.69	1.5
95	26	07-012	-7.55	29	07-013	0	gap elevator door		2.153	1.5
95	26	11-012	10.93	29	11-020	10.07	gap elevator door		2.153	1.5
56	15	18-019	49.11	16	23-019	49.11	Free opening		26.91	1.5
56	15	18-019	49.11	16	23-019	49.11	Grating opening		44.78	1.5
57	15	07-018	2.95	18	11-018	4.92	Grating opening		9.9	1.5
58	15	11-018	8.2	21	11-014	8.2	Door	1.45	21.53	1.5
59	15	11-018	8.2	22	11-015	8.2	Door	1.45	43.06	1.5
60	15	18-018	35.43	21	18-014	35.43	Door	7.25	21.53	1.5

Table 06.02.01-11-3—Containment Sub-Compartments – Flow Path Data (7 Sheets)

Junction Number	From Connection			To Connection			Flow Path Data			
	Control Volume	Room (30UJA)	Elev. (ft)	Control Volume	Room (30UJA)	Elev. (ft)	Opening Type	Opening DP (psi)	Flow Area (ft^2)	Loss Coefficient
61	16	23-019	52.4	21	23-042	52.4	Door	1.45	21.53	1.5
61	16	23-041	52.4	21	23-042	52.4	Door	1.45	21.53	1.5
62	16	34-019	86.48	24	34-015	86.48	Door	1.45	21.53	1.5
63	16	29-019	71.19	24	29-015	71.19	Door	7.25	21.53	1.5
13	3	11-003	10.93	4	11-004	10.93	Free opening		430.57	1.5
14	3	15-002	24.08	5	18-002	24.08	Grating opening		251.88	1.5
14	3	15-003	30.77	5	18-003	30.77	Grating opening		447.793	1.5
15	3	11-009	10.07	11	11-002	10.07	Free opening		109.8	1.5
16	3	11-001	18.5	8	15-002	18.5	Free opening		17.76	1.5
16	3	11-001	18.5	8	15-003	18.5	Free opening		17.76	1.5
17	3	11-002	8.2	17	11-022	8.2	Door	1.45	21.53	1.5
17	3	11-002	8.2	17	11-022	8.2	Door	1.45	21.53	1.5
18	3	11-003	16.9	21	11-014	16.9	Door	13.05	10.76	1.5
18	3	15-002	20.18	21	15-025	20.18	Door	7.25	29.06	1.5
18	3	15-003	20.18	21	15-013	20.18	Door	7.25	36.38	1.5
19	4	11-004	10.93	5	23-017	45.28	Free opening		32.29	1.5
20	4	15-004	30.77	6	18-004	30.77	Grating opening		447.79	1.5
20	4	15-005	24.08	6	18-005	24.08	Grating opening		274.7	1.5
21	4	11-001	18.5	8	15-004	18.5	Free opening		17.76	1.5
21	4	11-001	18.5	8	15-005	18.5	Free opening		17.76	1.5
22	4	11-004	8.2	21	11-031	8.2	Door	1.45	28.42	1.5
23	4	11-004	16.9	21	15-014	16.9	Door	13.05	10.76	1.5
23	4	15-004	20.18	21	15-014	20.18	Door	7.25	36.38	1.5
23	4	15-005	20.18	21	15-014	20.18	Door	7.25	29.06	1.5
39	10	11-007	10.93	11	11-008	10.93	Free opening		430.57	1.5

Table 06.02.01-11-3—Containment Sub-Compartments – Flow Path Data (7 Sheets)

Junction Number	From Connection			To Connection			Flow Path Data			
	Control Volume	Room (30UJA)	Elev. (ft)	Control Volume	Room (30UJA)	Elev. (ft)	Opening Type	Opening DP (psi)	Flow Area (ft^2)	Loss Coefficient
40	10	11-007	10.93	13	23-018	45.28	Free opening		32.29	1.5
41	10	15-006	24.08	12	18-006	24.08	Grating opening		274.7	1.5
41	10	15-007	30.77	12	18-007	30.77	Grating opening		447.79	1.5
42	10	11-007	8.2	22	11-032	8.2	Door	1.45	28.42	1.5
43	10	11-007	16.9	22	15-015	16.9	Door	13.05	10.76	1.5
43	10	15-006	20.18	22	15-015	20.18	Door	7.25	29.06	1.5
43	10	15-007	20.18	22	15-015	20.18	Door	7.25	36.38	1.5
44	11	15-008	30.77	13	18-008	30.77	Grating opening		447.79	1.5
44	11	15-009	24.08	13	18-009	24.08	Grating opening		251.88	1.5
45	11	11-008	16.9	22	15-015	16.9	Door	13.05	10.76	1.5
45	11	15-008	20.18	22	15-016	20.18	Door	7.00	36.38	1.5
45	11	15-009	20.18	22	15-016	20.18	Door	7.00	29.06	1.5
73	21	11-013	10.93	22	11-016	10.93	Free opening		103.34	1.5
73	21	15-014	21.85	22	15-015	21.85	Free opening		66.09	1.5
73	21	18-013	36.91	22	18-016	36.91	Free opening		150.7	1.5
73	21	18-014	36.91	22	18-015	36.91	Free opening		93.33	1.5
73	21	23-014	54.63	22	23-015	54.63	Free opening		96.45	1.5
73	21	23-016	54.63	22	23-013	54.63	Free opening		210.33	1.5
74	21	15-021	63.98	25	29-016	63.98	Free opening		211.3	1.5
74	21	23-013	63.98	25	29-013	63.98	Grating opening		131.22	1.5
75	21	23-014	63.98	23	29-014	63.98	Grating opening		131.22	1.5
76	21	07-016	4.92	30	11-013	4.92	Free opening		44.13	1.5
77	21	15-012	20.18	29	15-014	20.18	gap elevator door		2.153	1.5
77	21	18-012	31.82	29	18-014	31.82	Door	0.00	2.153	1.5
77	21	23-012	48.56	29	23-014	48.56	Door	0.00	2.153	1.5

Table 06.02.01-11-3—Containment Sub-Compartments – Flow Path Data (7 Sheets)

Junction Number	From Connection			To Connection			Flow Path Data			
	Control Volume	Room (30UJA)	Elev. (ft)	Control Volume	Room (30UJA)	Elev. (ft)	Opening Type	Opening DP (psi)	Flow Area (ft^2)	Loss Coefficient
78	21	11-013	8.2	27	11-010	8.2	Door	1.45	21.53	1.5
78	21	15-013	20.18	27	15-010	20.18	Door	1.45	21.53	1.5
78	21	18-013	31.82	27	18-010	31.82	Door	1.45	21.53	1.5
78	21	23-013	48.56	27	23-010	48.56	Door	1.45	21.53	1.5
79	21	11-014	8.2	26	11-020	12.17	Door	1.45	36.38	1.5
80	21	15-014	20.18	28	15-011	20.18	Door	1.45	21.53	1.5
80	21	15-014	20.18	28	15-011	20.18	Door	1.45	21.53	1.5
80	21	18-014	31.82	28	18-011	31.82	Door	1.45	21.53	1.5
81	22	23-015	63.98	24	29-015	63.98	Grating opening		131.22	1.5
82	22	23-016	63.98	25	29-016	63.98	Grating opening		131.22	1.5
83	22	07-016	4.92	30	11-016	4.92	Grating opening		34.45	1.5
84	22	11-015	8.2	27	11-020	8.2	Door	1.45	36.38	1.5
85	22	23-015	48.56	28	23-011	48.56	Door	1.45	21.53	1.5
37	9	15-001	57.09	13	23-008	59.71	Free opening		5.17	1.5
38	9	15-024	27.69	15	15-018	27.69	Door	1.45	13.99	1.5
24	5	18-003	30.77	6	18-004	45.28	Free opening		468.46	1.5
24	5	23-003	55.02	6	23-004	55.02	Free opening		378.9	1.5
25	5	23-003	64.8	7	29-003	64.8	Grating opening		271.91	1.5
26	5	23-017	48.56	21	23-013	48.56	Door	1.45	21.53	1.5
26	5	23-017	48.56	21	23-013	48.56	Door	1.45	21.53	1.5
26	5	23-017	48.56	21	23-014	48.56	Door	1.45	34.12	1.5
26	5	23-020	48.56	21	23-013	48.56	Door	1.45	21.53	1.5
27	5	18-002	31.82	27	18-010	31.82	Door	7.25	28.53	1.5
28	6	23-004	64.8	7	29-004	64.8	Grating opening		271.91	1.5
28	6	23-005	63.98	7	29-005	63.98	Free opening		258.34	1.5

Table 06.02.01-11-3—Containment Sub-Compartments – Flow Path Data (7 Sheets)

Junction Number	From Connection			To Connection			Flow Path Data			
	Control Volume	Room (30UJA)	Elev. (ft)	Control Volume	Room (30UJA)	Elev. (ft)	Opening Type	Opening DP (psi)	Flow Area (ft^2)	Loss Coefficient
29	6	15-001	57.09	9	23-004	59.71	Free opening		5.17	1.5
30	6	18-004	31.82	21	18-014	31.82	Door	7.25	28.53	1.5
30	6	18-005	31.82	21	18-014	31.82	Door	7.25	28.53	1.5
30	6	23-005	48.56	21	23-014	48.56	Door	7.25	21.53	1.5
46	12	23-006	63.98	14	29-006	63.98	Free opening		258.34	1.5
46	12	23-007	64.8	14	29-007	64.8	Grating opening		271.91	1.5
47	12	18-008	30.77	13	18-007	45.28	Free opening		468.46	1.5
47	12	23-008	55.02	13	23-007	52.99	Free opening		378.9	1.5
48	12	18-006	31.82	22	18-015	31.82	Door	7.25	28.53	1.5
48	12	18-007	31.82	22	18-015	31.82	Door	7.25	28.53	1.5
48	12	23-006	48.56	22	23-015	48.56	Door	7.25	21.53	1.5
49	13	23-008	64.8	14	29-008	64.8	Grating opening		271.91	1.5
50	13	23-018	48.56	22	23-015	48.56	Door	1.45	34.12	1.5
50	13	23-018	48.56	22	23-016	48.56	Door	1.45	21.53	1.5
50	13	23-018	48.56	22	23-016	48.56	Door	1.45	21.53	1.5
50	13	23-031	48.56	22	23-016	48.56	Door	1.45	21.53	1.5
51	13	18-009	31.82	22	18-016	31.82	Door	7.25	28.53	1.5
31	7	29-005	67.26	16	29-019	71.19	Concrete duct		10.76	1.5
32	7	34-003	103.51	25	34-104	103.51	Rupture disk SG1	0.70	159.31	1.5
32	7	34-004	103.51	25	34-104	103.51	Rupture disk SG2	0.70	159.31	1.5
33	7	29-005	67.26	23	29-018	67.26	Door	1.45	21.53	1.5
33	7	34-005	82.35	23	34-018	82.35	Door	1.45	21.53	1.5
34	7	34-003	103.51	25	34-104	103.51	Dampers SG1	7.25	21.53	1.5
34	7	34-004	103.51	25	34-104	103.51	Dampers SG2	7.25	21.53	1.5

Table 06.02.01-11-3—Containment Sub-Compartments – Flow Path Data (7 Sheets)

Junction Number	From Connection			To Connection			Flow Path Data			
	Control Volume	Room (30UJA)	Elev. (ft)	Control Volume	Room (30UJA)	Elev. (ft)	Opening Type	Opening DP (psi)	Flow Area (ft^2)	Loss Coefficient
52	14	34-006	85.47	16	34-019	87.53	Free opening		26.91	1.5
53	14	34-007	103.51	25	34-108	103.51	Rupture disk SG3	0.70	159.31	1.5
53	14	34-008	103.51	25	34-108	103.51	Rupture disk SG4	0.70	159.31	1.5
54	14	29-006	67.26	24	29-015	67.26	Door	7.25	21.53	1.5
54	14	34-006	82.35	24	34-015	82.35	Door	7.25	21.53	1.5
55	14	34-007	103.51	25	34-108	103.51	Dampers SG3	7.25	21.53	1.5
55	14	34-008	103.51	25	34-108	103.51	Dampers SG4	7.25	21.53	1.5
86	23	29-014	70.7	24	29-015	70.7	Free opening		79.55	1.5
86	23	34-014	86.29	24	34-015	86.29	Free opening		81.92	1.5
87	23	29-018	69.88	25	29-013	78.08	Free opening		164.26	1.5
87	23	34-014	93.5	25	40-001	93.5	Free opening		2120.56	1.5
87	23	34-018	93.5	25	40-001	93.5	Free opening		625.4	1.5
87	23	29-013	79.07	25	34-014	79.07	Free opening		57.7	1.5
87	23	29-013	79.07	25	34-014	93.5	Free opening		284.18	1.5
88	23	29-012	67.26	29	29-014	67.26	Door	0.00	2.153	1.5
88	23	34-012	82.35	29	34-014	82.35	Door	0.00	2.153	1.5
89	23	29-014	67.26	28	29-011	67.26	Door	1.45	21.53	1.5
89	23	29-014	67.26	28	29-023	67.26	Door	1.45	21.53	1.5
90	23	34-014	82.35	27	34-011	82.35	Door	1.45	21.53	1.5
91	24	29-015	70.7	25	29-016	78.08	Free opening		268.03	1.5
91	24	34-015	93.5	25	40-001	93.5	Free opening		775.03	1.5
91	24	29-016	79.07	25	34-015	79.07	Grating opening		57.7	1.5
91	24	29-016	79.07	25	34-015	79.07	Free opening		284.18	1.5
92	24	34-011	82.35	28	34-015	82.35	Door	1.45	21.53	1.5
93	25	29-013	67.26	27	29-023	67.26	Door	1.45	21.53	1.5

Table 06.02.01-11-4—Dimensions of Rupture and Convection Foils

Type	Description	Dimensions (mm)	Cross-Sectional Flow Area (m^2)	Quantity (Per SG-Pressure Equalization Ceiling)
C (Similar to Type I)	Convection Foil	725 x 725	0.3721	60
I	Rupture Foil	725 x 725	0.3721	26
II	Rupture Foil	552 x 725	0.2867	24
III	Rupture Foil	391 x 725	0.1508	6
IV	Rupture Foil	315 x 725	0.1251	2
V	Blind sheets (do not open)	Vary according to location	None	36